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THE
MARYLAND FARMER

—DEVOTED TO—

Agriculture, Horticulture, Live Stock and Rural Economy.

The oldest agricultural Journal in Maryland and for ten years the only one.

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THE NEW YEAR. 1886.

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The old year with its heavy load of joys and griefs has gone. How much is crowded into a single year in these days of rapid transit! We used to think it was sufficient to plod along in the old beaten path of our forefathers, and take events as they come, without any great attempt to change or improve them. But the spirit of unrest has taken possession of men during this last quarter of the nineteenth century, and everyone is pressing forward with his scheme of improvement, until all the departments of human life are infused by the genius of change. Inventive spirits besiege every loophole in farm life, and laugh at the idea of down-right hard work being necessary even in this sphere of human toil.

We can indeed rejoice that the burdens of labor are made lighter every year by the improved methods which farm machinery is introducing; and that the farmer's toils are transferred to his teams, or, to the greater motive force of the steam engine. Farmers are getting to till the soil with their heads instead of their hands. In other words, mind is doing the work by machinery which heretofore was wrought out by muscular effort. We should rejoice greatly at every evidence of advance-

ment in this respect; and we shall as heretofore, endeavor to keep our readers posted on all such improvements as we believe to be real, worthy of adoption, and calculated to lessen the severity of farm labor. May this coming year be more fruitful in these triumphs of mind over matter than any year of the past.

Our readers well know that we are by no means visionary as to the teaching we give concerning agricultural methods. We are prone to rely upon facts and hold fast to the best results of experience, only accepting theories after the closest observation and experiment leave little doubts of their truth. We would not wish to mislead a single one of our readers in anything; but we hope to be no clog upon the advancement of any where good encouragement is given of lighter work, better crops and more permanent success,

Our Magazine covers a broad ground, being the record of the best life man is permitted to enjoy in this world. We would be happy could we impress all our readers with the dignity, the royal character, of the pursuit in which they are engaged. On this New Year and with the commencement of this new volume, how can we best indicate the magnificent prospect lying before the farming community.

in this country? But this is not a work for a single number and a few short paragraphs. It is a work which must extend through this whole volume, and transfigure all the work of this present year. 1885 has brought us a larger measure of success in our endeavors than former years and we have no reason for complaint; Still we hope to make the present year more comprehensive, vastly brighter and better for the agricultural community. With renewed youthful vigor, we would give heed to the spirit of the age which calls for live men, earnest, whole-souled workers, and would keep step with the march of improvement. In this way the farmer will make his position noble, and take his rightful place in this free nation of which he forms so large a portion. It shall be our constant endeavor to show at all times the actual power possessed by the farmer in modeling the destiny of our land, until our readers generally feel themselves the peers of any class, and recognize the claims they have upon the state and general government for legislative consideration.

Happiness and Good Cheer to our readers! What better desire than this can we have for you. Twenty-two years have gone over us since we commenced our journey, and many of our readers have been with us from the beginning. Old friends we greet you! May we be together in health and happiness as many more years; and may the MARYLAND FARMER be a source of many joys and benefits to you during all the time to come. And to the hosts of readers who have been swelling our lists all along the route, from that day to this, we have the same wishes, the same greetings; even to those who have come to us on this very day for the first time. We welcome you all, and in the old time style wish you "a happy New Year."

Now is the time to subscribe for 1886. One dollar a year in advance.

THE PROPER COMBINATION.

We are sure our readers will assent to the proposition that the proper combination of industries on the farm is that which will yield fair wages for the labor expended, a fair income on the capital invested, and yet not decrease that capital i. e. reduce the productiveness of the land. Upon forming this combination depends success in farming; and the failure to form such combination is the cause of hard times in the country. Very often parties suppose they have found the *desideratum*, when they have not, their mistake being due to the fact that they overlook one very important part of the result of this combination, maintaining the fertility of the land. The income may be apparently large, but it is at the expense of the principal. The value of the land is yearly lessened to swell the receipts. That this is very often the case is shown but too plainly by our impoverished farms.

The proper combination of farm industries is a combination of grain and forage crops with stock raising; that while the crops and classes of farm stock will vary with the circumstances peculiar to each case, neither the crops nor the farm stock can be omitted. As we have just stated the crops and classes of stock must be determined by each person for himself; hence we shall not attempt to prescribe these. We shall content ourselves with showing why stock raising must be part of the combination; for our overcropped fields plainly demonstrate that it is not necessary to convince the American farmer that he should produce grain.

If grain and hay are produced exclusively, ignoring farm stock, the fertility of the farm (the most important matter, remember) can not be maintained unless there is an outlay for commercial fertilizers so large that it will take away a fair return for the labor and capital employed. Grain farming will impair the fertility of

the land as surely as continual subtraction from, without any addition to, a limited store will exhaust that store; for it is continually taking matter from the soil without returning any of that matter to the land from whence it came. All the crops are taken off the farm. Now if those crops fed to any class of livestock, at least ninety per cent. of the manurial value of the matter consumed may be returned to the land in the manure of the animals. The remaining ten per cent. may be put back by using commercial manures. Anyway, the expense for these fertilizers will be only one-tenth of what it will be if the crops are marketed off the farm. Or this ten per cent. of the fertility extracted may be replaced by green manuring. In either case the fertility of the land will be maintained, and the expense will not destroy the income from the crops produced. And the point that should not be forgotten is that when the land is cropped exclusively it is so difficult and expensive to maintain the productiveness of the land that it is not done in one case in a thousand.

Combining stock-raising with grain and grass growing also increases the income. We complain, and justly, that the costs of transporting our products to market are very high; and it is just as certain that these costs frequently destroy all profit on a crop as it is that the costs of marketing a product are borne by the producer which is everywhere asserted by writers upon political economy. Now what we want to do is, not to growl and grumble at the transportation companies, but to put our products in such shape that their transportation will cost the least; and the way to do this is to feed the forage and grain to stock. It costs less to ship a four hundred pound hog than twenty-four hundred pounds of corn, because the weight and the bulk of the former are much less; yet one is the equivalent of the other; and the saving is equally as great if the stuff

be fed to cattle, sheep or horses.

Again, the man who raises grain exclusively has seasons of great hurry and seasons of enforced idleness. The latter are always unprofitable and frequently the former are. But the man who combines stock raising with grain farming has remunerative work all the year. When his crops require the least work his stock requires most, and *vice versa*. He is never hurried and yet has something to do at all seasons. Certainly a more profitable arrangement than very busy seasons alternating with comparatively idle ones.

◆◆◆ TREE PLANTING.

Ever since our youth we have had a strong inclination to plant trees. We have thought no better monument could be reared to one's memory than to have in every place occupied, if only transiently, some noble tree to speak for us. Many an oak and hickory have we thus started, with an occasional walnut, and fruit trees without number. It pleases us that in future days, years perhaps after we are dead and otherwise forgotten, some one will point out this or that noble tree, an ornament of the door yard, or a conspicuous shelter in some fields, and say that was planted years ago by us, when we occupied this old dwelling. Or, refer to us saying, we had a hobby for planting trees, and all around us are the trees planted by our hands. We believe in tree planting: Fruit trees for our own use and for the use of those who may follow us; forest trees for the benefit of the land and the country; shade trees for the shelter of our homes, for the relief of our cattle; ornamental trees for beautifying of the landscape, and the approaches to our dwellings. Trees of all names to be planted for the great good of our country homes, the blessing of man and beast. We believe that this planting of fruit, forest and ornamental trees would be a means of cultivating and refining the peo-

ple of our land, which is unequalled by any other instrumentality within such easy reach of all. The person who plants, and watches over the progress of a tree, cultivates an element which becomes powerful to improve both his mind and morals. Besides it fills him with a love of localities which time has no power to obliterate. How often do we return to places, after years of absence, and remark with tones of affectionate remembrance, "there is the tree we planted when a young man. How it has grown! How it overshadows the old shed!" To be able to say this is worth to us more than money, more than worldly success in politics, or business. It is health inspiring, heart cheering. We have not the opportunity now to show all the statistical benefits of tree planting; enough that it beautifies and blesses the waning days of life with sweet memories of green fields and country homes and all that has made our life most blissful and happy.

To the Editor of the Maryland Farmer.

IMPORTANT SUGGESTIONS.

Deep Plowing—Pulverization—Warm Shelter and Feed for Cows—Mulching—Fun—Early Harvest—Seed Corn and Wheat.

I am pleased to note the improvement already made in your Journal as well as proposed improvements for the future, and in that spirit will here suggest a few reminders to your patrons. We hardly presume to offer instructions, only reminders. Farmers do not lack knowledge, but seem to lack enough resolution to always put their best knowledge in methodical practice. There is hardly anything can be written on the subject of Agriculture which most farmers do not know. Many are better informed than they practice, and if we can say anything that will stimulate even a few of them to adopt better and more profitable methods, we shall be happy and gratified. Merchants and manufacturers always adopt the best methods they know.

DEEP PLOWING—PULVERIZATION.

Fertile soil is the basis and first requisite of successful farming, and good management of soil and seed is the most es-

sential to enduring and profitable husbandry. To preserve or restore the fertility of the soil, the most sure and economical operation is occasional deep plowing and complete pulverization of all the surface soil. It is well known, or should be, to every farmer, that no lumps or soil not crushed fine can be absorbed by the roots of plants; therefore, whatever of the soil remains unpulverized can be of no use to the crop that season, but if pulverized the next season those lumps will be about the same as new soil to the crop when planted in it, so that to a certain extent, every increased comminution of the soil is about equivalent to the addition of so much soil to the field; as only what is appropriated is exhausted by plants.

The same is true of deep plowing to a large extent, as it brings up and adds to the surface a quantity of new soil from below, not yet impoverished by cropping. The sub-soil being brought near the surface, subject to the action of air, frost and water, becomes a new productive soil for the use of crops to the extent of the depth of the subsoiling below the former furrows, say two or three inches depth, and may be equivalent to two or three years cropping of new ground. This addition of new elements is not the only advantage derived from the sub-soiling system; it gives more depth for roots to penetrate and affords better permeation of air and water; does much to prevent drought, allowing moisture to rise from below in a dry time, and excess of water, in heavy rains, to pass off freely.

WARM FEED AND SHELTER FOR COWS AND STOCK.

Nothing pays better than housing the stock. Having recently been on a trip among farmers and dairymen in Ohio and Michigan, I was instructed in leaving that they had already proved that they derived various large benefits and profits in giving their cows warm feed, morning and evening, benefits much above the extra cost; also to some others of their stock. The animals keep in better condition, give more milk and butter, and make fat faster when uniformly given warm feed and shelter. They also prove, very surely, that stock kept warm and sheltered will keep in far better condition on much less feed than if compelled to shiver in storms and

wind while eating their fodder. In such uncomfortable condition large quantity of feed is required to keep them warm, while in warm quarters the food would go to make milk, flesh and fleeces; so there is economy, profit and merciful humanity, in warmly feeding and housing farm animals.

SURFACE MANURING—MULCHING.

Natures mode of manuring and preserving fertility of soil is by spreading nearly everything on the surface; and nature in most cases is a safe guide. Leaves in forests, and grass and weeds on prairies and fields are deposited on the surface, from year to year, preserving fertility and causing giant forest trees to grow. Besides, plentiful *mulching* preserves nitrogen and moisture about the plants; also securing from the bad effects of too much sun heat; also, in winter secures crops from much injury by freezing and heaving out, or being blown bare by the spring winds, as the fine manure falls into the cracks of the soil and nourishes the roots. Careful experiment and close observation, everywhere, show that liberal top-dressing, surface manuring, on most crops—winter grains, meadows, and some spring crops—is the best mode of applying manures.

FUN IN FARMING—UNTIDYNESS.

There is fun—apparently—with some farmers, in wrestling with those old stumps, logs and stones, instead of reasonably removing them. That old half burned log, which has lain for years, dozens of times plowed around; the farmer has spent many hours, when plowing the field, in stopping to roll it away for the furrow, and then rolling it back to make way for the next furrow, and so on, as we have seen many farmers do—barking their own shins and teams too—sometimes breaking a plow or harrow; when half the time would do to remove it entirely out of the way of work and growing crops. And that big stump, to catch the plow point in its roots, jerk the plow and give the plowman a punch in the ribs or belly—fun alive—for him; then that big rock or boulder—playing the same pranks with plow and drag and man; half the trouble and time would get them entirely out of the way; but then, it is so jolly and amusing—such fun!

EARLY HARVEST—BRAN—RUST.

All the time that wheat stands, after it is out of the milk, has come to the dough

state, it is at the expense of making bran and losing flour properties; therefore letting it stand to get hard or dead-ripe, before cutting, is a dead loss of grain and flour; hence, it is wise to cut wheat three to five times sooner than is the general practice. For best results, wheat should be harvested when in the *doughy* state, soft enough to be chrushed between the thumb and finger; for all the time it stands after that, it makes bran at the expense of flour. This fact has been often clearly proved. Another great advantage of cutting early, is the greater security from destruction by *rust*—two or three days, a day even, has sometimes saved a crop from being struck by rust and destroyed; rust is a fungus in spores; but they cannot grow and spread, at all after the grain is cut. Other advantages are secured by early harvesting, such as less shelling and shattering, and better straw and easier handling.

SEED CORN AND WHEAT—SALT.

To be entirely safe and produce the best results, corn for seed should be selected from the hill or stalk, choosing those having two or more ears on the stalks, selecting the best ears of the lot; then wreath them up in bunches of three to six by the husks, and hang them up in a dry place where they will be entirely free from frost or freezing, until time to plant; when ready to plant soak the seed in strong salt brine, six or eight hours, dry it in fine lime for planting; this will cause all the seed to come up quicker and more evenly, and less liable to destruction by bugs and worms. A similar preparation of seed wheat will give equally good results of that crop. In both cases the increased yield and improved grain will much more than pay the extra expense. Salt—two to five barrels to the acre spread broadcast, will give increase of present crop, wheat or corn, more than the cost, and also greatly benefit succeeding crops, two to four years.

FEEDING ALL THE STOCK—NO FENCES.

It is certainly easier and cheaper for a farmer to fence *in* his own stock only, than to fence *out* all the stock of the town. On most farms the cost of fences is more than the value of all the stock which they enclose, and in some cases the cost of the fences is greater than the price of the land on which they are. By a true policy nearly all of this great expense may be saved, that

is by cutting all the feed and giving it to the animals in yards and sheds, instead of having the stock run in pastures and woods as usual. A given quantity of land will maintain three to four times as many animals, if the feed be given them in yards, than in the usual mode of pasturing. Then all stock fed and handled in this way, thrive better, are more tame and pleasant—never doing breachy mischief—and will command better prices. Then let all the people demand, and all the State Legislatures enact laws forbidding the running at large of any kind of stock.

NOTES.

In too many cases tools are left out, exposed to rust and rot, by which they become injured far more rapidly than by the wear of fair use; it is economical to put them under shelter, as soon as done with, for the season.

Often, much time is lost in hunting up tools, left out of place; better "have a place for everything and everything in its place," at same time.

Farmers, generally, as I know from many years experience, will make and save money by remembering and practising the above rules, which too many farmers seem to forget, at least unheed them, hence, these kind reminders.

Washington, D. C.

D. S. C.

Agricultural Education in the South.

The Agricultural College of Mississippi, at Starkville, seems to be meeting with gratifying success. There are now 360 students in attendance, the full capacity of the college. A correspondent of the New Orleans *Times Democrat*, who has recently visited and critically inspected the methods of the college, says "the thoroughness of the instruction, coupled with the enthusiasm of the faculty and students in their academic and industrial duties, argues a bright future for Mississippi. The discipline is splendid, and the experimental and other work on the farm in the way of raising crops, pure bred and graded cattle, nursery, stock, vegetables and fruit, success of creamery, will soon give that State an educated and progressive set of farmers fully able to cope with the new order of things." Gen. Stephen D. Lee, of Confederate fame, is president of the college.

CATTLE-RAISERS SAY THEY MUST HAVE NATIONAL LEGISLATION OR THEY ARE LOST.

Commissioner of Agriculture Colman Sounds the Clarion Before the Convention.

The third annual convention of the cattle-growers of America, met at the Sherman house in Chicago, last month. The convention was called to order by Hon. D. W. Smith, of Bates, Ill., who is president of the National Cattle-Growers' association, which called the meeting. Mr. Smith made a brief address, in which he advocated the necessity on the part of cattlemen of pooling their interests. Maj. A. C. Alvord, of Mountainville, N. Y., was chosen chairman.

Hon. D. W. Smith stated that Hon. Norman J. Colman, Commissioner of Agriculture, was present upon invitation. Mr. Colman was escorted to the platform. He was received with applause. The following are extracts from the paper read to the convention:

"The history of the development and of the present wonderful magnitude of the cattle industry creates increased interest and fresh astonishment the more it is studied and the more we trace its relations to the comfort and prosperity of our people.

When the first accurate statistics of the cattle in this country were collected, in 1850, it was found that we had in round numbers about 17,778,000; in 1860, 25,620,000; in 1870 this number had been reduced to 23,820,000; in 1880 there were 35,925,000, while in 1885 there are not far from 45,000,000. This last number is so great that it is difficult for the human mind to grasp its significance or to appreciate the vast accumulation of cattle which it represents, which have been gathered together and reared by the industry and enterprise of our people.

If a solid column should be formed twelve animals deep, one end resting at New York city, its center encircling San Francisco, and its other arm reaching back to Boston, such a column would contain about the number which now forms the basis, the capital stock, so to speak, of the cattle industry, of the United States. The value of these animals is not less than \$1,200,000,000.

While the cattle industry has reached this remarkable development, and those engaged in it have accumulated this fabulous aggregate of wealth, you, who represent the industry here today, find yourselves confronted by problems which have increased in seriousness even more rapidly than your herds have multiplied upon their luxuriant pastures. Insidious cattle-plagues exist in the country, and eternal vigilance is required to keep them from sweeping through your herds as a fire sweeps the dry grass from a prairie. To protect from these diseases state regulations and state restrictions upon the movement of cattle have been formulated, which during the past year have been the cause of the most serious disturbance and loss to those engaged in this industry in a considerable number of states. Those who are raising cattle upon the arid plains of the west are becoming uneasy in regard to the security of their ranges. Our people are impatient under the restrictions upon our foreign trade. And so, in whatever direction we turn, there are important questions to be met which will doubtless tax your talent, energy, and perseverance to the utmost, and require wise and united action to secure a satisfactory solution of them.

But it is not the cattle interest alone that has to meet these questions. When we attempt to consider the importance of the industries affected by them we find that the various branches of the animal industry are so linked together that all are more or less affected.

Contagious diseases are not confined to cattle alone. The swine industry is at this time perhaps the very greatest sufferer from them, and from all parts of the country comes up the cry for relief. Nor are these restrictions upon our foreign trade confined to cattle alone. Our sheep and swine are also slaughtered on the English docks with an even more destructive effect upon the traffic. The prohibition of our pork is only too well known; and the interest in a settlement of the range questions is shared by the breeders of cattle; horses, and sheep. The question which a national convention of cattlemen must consider are, consequently, broad questions, which involve great principles, and are of national importance from various standpoints. And with you are directly interested the breed-

ers and owners of the 13,000,000 of horses and mules, of the 50,000,000 of sheep, and of the 45,000,000 of swine. This great animal industry may be said, therefore, to be united in interest, and by embracing the horses, and cattle, and sheep, and swine, we have a capital represented of \$2,500,000,000.

What wonder then, that our people, who have seen this enormous range cattle industry spring into existence within the last ten or fifteen years spread out over this boundless territory, should jump to the conclusion that the cattle business was being overdone? But this is not the case. Notwithstanding the wonderful increase of the past fifteen years, an increase which it is safe to say will never be repeated in the same time in this country for lack of territory, we have just about the same number of cattle per thousand inhabitants that we had in 1850, and less than we had in 1860. I have no doubt that to many this statement will seem incredible; but a glance at the figures cannot fail to convince the most sceptical. In 1850 we had a population of 23,191,876, and 17,778,907 head of cattle, or 766 cattle to the thousand inhabitants; in 1860 we had 814 cattle to the thousand population; in 1880 we had but 716 head to the thousand; and if we estimate our population in 1885 at 57,000,000 and our cattle at 44,000,000, we would only have 772 to the thousand at this time. In other words, although our cattle have increased in an almost fabulous manner, our population has increased with equal rapidity.

It is however, only this new region that has so recently been developed west of the Mississippi that has enabled the increase of our cattle to keep pace with the population. In the older settled states the agricultural class has not held its own.

There is another consideration that we can not forget in discussing this question of comparative beef supply in different countries, and that is the amount of meat consumed per capita. In the United States from being long accustomed to an abundant supply of meat, and owing also to the prosperous condition of our people, we consume more meat per head than any other country. The estimates from the most recent statistics are as follows: In the United States we consume 150 pounds of meat per capita; Great Britain consumes

109 pounds; Denmark, 76 pounds; Belgium, 74 pounds; France, 70 pounds; Germany, 66 pounds; Austria, 53 pounds; Greece, 50 pounds; Holland, 48 pounds; Russia, 47 pounds; Italy only 18 pounds. Considering the habits of our people and the consumption of meat per capita, New York already has a smaller beef supply than Germany, and in twelve years will have no greater one than England.

The cattle business is one which must of necessity be of slow development, and can never be rapidly increased no matter how great the necessity. With almost any other product the demand, however fluctuating, can soon be met. If wheat, or corn, or oats, or cotton is in great demand and bears a high price any of these products can be raised to meet the demand. The supply can be increased in a single year a hundred or a thousand fold. And so it is easy to supply the increased demand for any manufactured article to any extent, even to the overstocking of the market, to the breaking down of prices, and involving those engaged in the business in bankruptcy. This is not true of the cattle business, however. By no possible means can cattle be made to breed like rabbits, nor is there any artificial way by which cattle can be hatched as chickens are in an incubator. It is only by the slow, steady increase of one calf a year from each cow that progress can be made, and that progress, it is evident from the figures which have been presented, will be insufficient in the future to supply our growing demands.

In 1860, at the beginning of the war, we had 814 cattle to 1,000 population. During the war the stock was so decreased that in 1870 we had but 618 to 1,000 population; and now, twenty years after the close of the war, with the most favorable conditions for the multiplication of our cattle, with an unexampled investment of cattle and enterprise in the business during these years, we have not yet recovered the position occupied in 1860, and have not more than 772 cattle to the 1,000 population at this time.

We may draw from this one of the most instructive lessons as to the importance of protecting our great herds of cattle from the inroads of contagious disease. Let pleuro-pneumonia or any of these cattle plagues sweep over our territory, destroy our breeding stock, and discourage our

breeders, and the youngest child in this country could not hope to live long enough to see the cattle business—or in other words, the beef supply—of this country upon as favorable a basis as it occupies to-day.

From the adoption of the Declaration of Independence to the present population of this country has about doubled every twenty-five years. Commencing, for convenience, at 1775, we find there were then about 3,000,000 of people in the country. In 1800 we had 6,000,000; in 1825, 12,000,000; in 1850, 24,000,000; in 1875, but for the effects of our civil war, we should have had 48,000,000. Now if we take 1880 for a starting point and go on at the same rate, we can not fail to be deeply impressed by the changes which must certainly occur in the near future, and by the vastly increased food supply that will be required. In 1880 we had 50,000,000 of inhabitants; in 1905 we should have 100,000,000; in 1930, 200,000,000; in 1955, 400,000,000; in 1980, less than 100 years hence, 800,000,000 of inhabitants.

Where are these teeming millions to live? On what are they to subsist? Where and how are the cattle to be bred and reared that must be relied upon to furnish beef? To keep up our present beef supply we must increase our stock of cattle to 70,000,000 within 20 years, and to 140,000,000 within 45 years.

Is it possible for us to accomplish this under the most favorable conditions?"

CIRCULARS AS ADVERTISEMENTS

The newspaper is, in every sense, the best medium for advertisement and, for a given result, it is by much the cheapest also.

It reaches a far greater number of possible customers than any private announcement can; and it is more certain to receive attention. The private circular is thrown aside as a thing which people have come to regard as a bore, and which is neglected because its recipients have no time to attend to it. The newspaper is used in each day's hour of leisure, and readers find interest in reading its advertisements as well as its news, because of the variety they present and the information they convey respecting a wide diversity of interests.

It may be safely estimated that an an-

nouncement made through the press is noticed by fifty readers, where, made in a private way, it would reach but one. If, therefore, the same amount were expended in either case, the result would be fifty-fold better from the former method than from the latter. There are, undoubtedly, cases in which the circular is better than the newspaper. Such for instance, as where the matter is necessarily lengthy, and the cost of newspaper space would therefore be very large. But such cases are quite exceptional; and the sooner advertisers learn the folly of their present large expenditures in seeking publicity through private means, the better for their pockets and their success.—N. Y. *Commercial Bulletin*.

REPORT OF THE COMMISSIONER OF AGRICULTURE.

We can only copy this month from the able report what the commissioner says in regard to the seed division of the department.

"Relative to the reforms instituted, those in the seed division call for more than a passing notice. It is a division whose annually expended appropriation exceeds that of any other in the Department, and proportionate to this should be the care and wisdom in its management. Particular attention has therefore been given to improved methods in the distribution of seeds. Experienced executive officers have been appointed to prevent an indiscriminate and useless distribution of seeds in climates and soils to which they are not adapted; to carefully study the necessities and climatic condition of the several sections; to thoroughly test, before distribution, a sample of every variety of seed purchased, to prove its vegetative qualities, and to skillfully subject such seed to a rigid examination for the purpose of detecting the presence of seeds of noxious weeds, injurious insects, or the germs of disease. Improved methods have also been applied to the handling of seed in its receipt, its preparation for distribution, and its disposition; and it will be my endeavor to continue to inaugurate new and improved systems as rapidly as the service may require.

Two-thirds of all seeds, plants, and cuttings may be distributed by the Senators,

Representatives, and Delegates in Congress direct, and their constituents do not feel in duty bound to report the results to the Department. It is obvious that these representatives of the people are better acquainted with the best intelligence and needs of their respective districts than the Department is; while, on the other hand, it must be admitted that the Department understands better than others, the nature and habits of the seeds and plants it distributes; and it is a matter for serious consideration on the part of Congress whether or not some systematic plan of co-operation may not be fixed upon between this Department and Members of Congress, by which the former can have a better control over the distribution than it now has, and make the distribution a condition precedent to a compliance with simple but important requirements, and thus reap the greatest benefit from the distribution.

Another reason for a change of systems, in this respect, is that the quota of one-third of all the seeds, &c., purchased, at present allowed to the Department, is insufficient to enable it to meet its own legitimate debt of obligation to its thousands of correspondents, and others who can receive no other favor from the Department in consideration for valuable and important services rendered. The Department keenly feels that this debt should first be met, and the remaining seeds are not sufficient to carry on experiments in a comprehensive manner. The intelligent and progressive farmer of to-day, with whom the Department wishes to deal, is unwilling to give the requisite attention and time to a handful of grain, and he should not be asked to do so, nor would such experiment result in any great benefit. No good can come from the distribution of a pint of seed where a bushel is needed.

MARVELS IN PAPER.—At the Melbourne Exhibition there was a complete dwelling house made entirely of paper and furnished with the same material. There were paper walls, roofs, ceilings, floorings, joists and stairways. There were paper carpets, bedding, chair, sofas and lamps. There were paper frying-pans, and even the stoves, in which bright fires were constantly burning, were made of paper mache. When the fabricator of this mansion gave a banquet the table cloths, napkins, plates, cups and

saucers, tumblers, bottles and even the knives and forks were likewise made of paper.

To the Editor of the Maryland Farmer.

BEES AS A SOURCE OF FARM INCOME.

BY J. W. PORTER.

Aside from the pleasure afforded by the study of nature's handiwork in one of its most intricate and delicate forms which apiculture permits—and only those who have been diligent students, may know how broad a field lies open and unexplored.—The bee keeper naturally looks for some tangible reward for his care and attentions.

To what extent bee keeping can be made to increase farm income is a very interesting question, for many, in these days when income from ordinary sources is so much curtailed.

I have no reason to take back or alter what I once declared in your columns to be my belief, that enough of nature's purest sweet, nectar of flowers; goes to waste every year in the forests, orchards and fields, to supply all the sweets our great population use. Not every farmer may attain the highest rewards and greatest success. No more can such be the case in stock raising, or corn growing. Some will show greater aptitude than others. If it may be said, any one can grow corn and raise stock, so it can with equal propriety be said that any one can keep bees. Men who have obtained the greatest results in apiculture it is true, have made that a *special pursuit*. But great success has been achieved by many who have taken up this pursuit as a sort of recreation from other cares, and by others who have with other and often large engagements looked to it as one of the sources of income. I might name as one of the latter, my friend Chas. F. Muth, a merchant of Cincinnati with a large business. He kept his bees in a sheltered roof of his store in that large city, and one year he reported a production of 3,300 lbs. from 22 colonies. All over the West may be found prosperous farmers who derive an important part of their income from bees. Many are personally known to the writer.

Realising the fact that there is no royal road to wealth for the farmer, that it is only by diligence, and by attention to

details that success is assured in this pursuit, as it is in agriculture and horticulture, no one need be led astray by false hopes. Experience gained in this particular department of industry will prove just as valuable as in any other. Without any doubt there is less liability of a ruinous loss of the crop, than there is of loss in ordinary farm crops. This may be questioned by many who this last season utterly failed to get any surplus honey. It is true that the same causes which caused so large a loss to the wheat and grass crops, affected the flora of the country, and the secretion of nectar in many plants. But the wide awake bee keeper who had all in readiness to secure the wonderful yield of locust bloom last spring had little cause to complain.

The trouble was that few had their stocks up to a condition that enabled them to secure that yield. So of the apple bloom, which was earlier still, and most abundant. Not being ready for that, the season was a failure to many, just as we see many a farmer fail in his grass seeding, because he was not ready at the right time.

In the best honey producing sections (and right here the writer will say that he knows of none superior to the Piedmont region) it must be borne in mind that the large part of the crop is gathered in a very few days of favorable growth. When colonies can take in from 10 to 20 pounds per day each, as is sometimes done, we may know that honey flows.

The writer himself has often had the lower figure but never more than 17 pounds. If every farmer were to but produce enough for his own family use and to furnish an equivalent for all purchases of sweets in other forms required—for we would not like to use it in tea and coffee—a very important point would be gained.

Ten pounds a week would repay most families and that is far above the average consumption I judge. Two well managed colonies ought to produce one-half that without great effort or special attention.

My own apiary has often had colonies that produced 250 pounds in a season, though it is admitted that 100 pounds is a large average for an apiary. This week comes a report of an average of 441 pounds for 33 colonies in California this season. It is quite within the range of possibilities when the season is extended, for the active

secretion of nectar in many bearing plants, to two or three months.

In the island of Cuba the production is wonderful in quantity but the quality is much inferior to ours. It is to be proved that the dread of bee stings has much to do with the general want of interest in apiculture. The masters of the art are generally quite indifferent to them, though no one appears to enjoy a lively bee sting. Protection is so easy now, and the means of subduing fractious bees so well known that no one need be deterred excepting those few upon whom it—the poison—acts virulently.

There are those, it is well known who are dangerously affected by bee stings. Such should not and will not undertake bee keeping.

This paper is not written for the purpose of conveying any instruction in the art, but rather to awaken a wider interest in what may be made a considerable source of income upon most farms.

It costs very little to make a start and it is far better to begin in a small way and with a determination to make it pay its own way, than to rush in with a costly outlay. Bee houses should be avoided. Colonies placed out of doors either without shelter or protected partially by shade trees. No patent hives nor patented processes are essential and few are even desirable.

ENSILAGE. EXPERIENCE.

Capt. George Morton, Essex, Vermont, one of the first men of that State to give silo and corn ensilage a trial for stock feeding, and whose occasional communications have appeared in the columns of the FARMER, sends us a sample of his this year's stock of ensilage, and some further account of his experience in the use of it. The sample received was made from a large kind of corn, cut after the ears had grown to considerable extent, and was put into the silo whole. It had doubtless changed somewhat during its long journey and delay, but on being placed before a cow that had never tasted ensilage before, it was taken hold of quite readily. Mr. Morton writes that he can do the work of filling his silo with uncut fodder at sixty cents per ton, and that the uncut is much sweeter than that which is cut fine. Both kinds are highly relished by his cattle, of which

he keeps a much larger number than he would know how to without the aid of the silo. More stock gives him a larger manure pile, so that he is now enabled to raise all his own grain, not having patronized the grain dealer twelve months past.—*New England Farmer.*

CORN AND COB MEAL.

It is generally considered that there is no nutriment in corn-cobs. But such is not the fact, as we are assured by those most capable of judging in the matter. Dr. Nichols, the able editor of the Journal of Chemistry, and a very competent chemist, recently made the experiment of subjecting to analysis some cobs divested of the grain, and he found them to be composed of crude fibre 30.95 per cent.; carbohydrates, fat and albuminoids, 50.41 per cent., ash, 1.16 per cent. and water, 7.47 per cent.—total, 100, showing conclusively that cobs have a higher nutritive value than wheat or rye straw, and equal to that of the best oat straw.

Prof. Goessman, the able agricultural chemist of the State of Massachusetts, (and who has recently been engaged in a series of investigations in regard to the matter,) has arrived at the following conclusions: That the composition of the cobs is similar to that of the stalks of corn, and that the relative large per cent. of their soluble constituents (46 to 56 per cent.) places the cobs, in points of nutritive value, equal to potatoes and most of our hay.

Prof. A. Stockhardt, one of the most eminent chemists of Germany, does not hesitate to place fresh and finely-ground corn cobs on an equal footing, in nutritive value, to that of potatoes. Not only so, but regards them as possessing a positive advantage over potatoes, in securing a better diffusion of the nutritive elements of other food.

It was but a few years ago that an analysis of finely-ground meal from cobs alone, made at the agricultural department at Washington, by the United States chemist, resulted in finding the meal to contain a considerable amount of nutritive matter—much more in fact than is generally supposed.

A writer in a recent number of the Live-Stock Journal says that he has experiment-

ed largely with corn and cob meal in feeding his hogs, and notwithstanding the general opinion that the pig's stomach is incapable of managing so hard a material as the scales of the cob, he found it altogether imaginary, and had never seen any ill effects from feeding it to his hogs, but, on the contrary, found it a healthier food for hogs than clear meal, to which he adds that the advantage of grinding the corn and cob together is not altogether in the nutriment the cob contains, but because the cob, being a coarser and more spongy material, gives bulk, and divides and separates the fine meal so as to allow a more free circulation of the gastric juice through the whole.—*Baltimore Sun*.

HORTICULTURAL.

To the Editor of the Maryland Farmer.

TRUE SEED.

Dear Sir:—I notice in the November number of the *FARMER* a communication headed "Cabbage Culture South" and signed by B. W. Jones, Va.—The reason why Mr. Jones does not get as fine cabbage heads now as he did some years ago is simply because he buys his seed from some one of those seedmen who believe more in low prices than *prime* quality. Time was when seedmen were willing to pay growers a fair living price for good stock, and an extra price for superior stock. Some still continue so to do, but many of our seedmen will send seed abroad and have crops grown at prices that would bankrupt any American seed-grower, and these stocks in a very few years become unrecognizable. These low prices for growing have a great influence on prices among legitimate seed-growers, who are compelled to work *cheap*, and when they decline to accept orders from seedsmen at starvation rates, the growers go to ordinary farmers who are not posted as to the costs of growing the crops, and in fact know little about it except what they have gathered from observation or perhaps by reading, and get them to accept orders at low figures. In the fall the seedsman goes out and looks over the crops, and supposing it to be cabbage, he may point out certain heads which ought to come out, and tells the farmer so, and he assents, but, when the

seedsman is gone, in due season, the farmer realizes that he cannot throw away any part of his labor for the paltry sum he is to get for the remainder, and all are buried, and in the spring all are set out, and it does not take long to spoil even the best of stocks by this method. Time tells the tale, as we see by the failure of seedsmen from time to time, and no matter how much capital may be employed, or how great a business such houses may be doing, it is only a matter of time when all who will persist in buying low priced stock must go under. They may even for a time prefix and call this "Blowhards" so and so, and affix "extra selected" or anything else they please, charging you an extra \$2.00 per pound for the former and \$1.00 or so a pound for the latter, and only those seedsmen who buy from growers who understand their business and are honest and conscientious, can expect to remain and prosper, a survival of the fittest as it were. I cannot give Mr. Jones advice or consolation in regard to the insect pests. As a grower for seedsmen, I shall be glad to send him some samples of Long Island Cabbage and give him the names of firms who have them for sale at retail.

L. I.

FRANCIS BRILL.

THE NASTURTIUM IN WINTER.—But I have never had any plant that gave greater pleasure and brighter blooms than the climbing Nasturtium. I remember that I had, one winter, a box containing two or three vines of the Lobbianum varieties.

These were trained around the back and ends of the pit, and the gay blooms were produced in great numbers. I think I have never had any flowers so admired during the winter.—From "Blooming Plants for Pits," in *VICK'S MAGAZINE* for DECEMBER.

"Fearless" Threshing Machine.

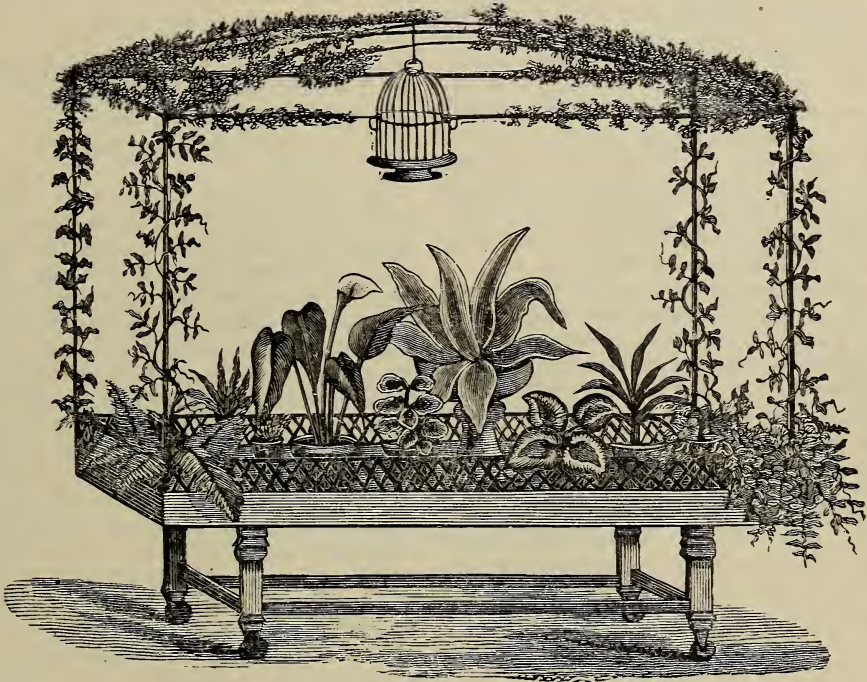
We call the attention of farmers and threshermen to the advertisement of the celebrated "Fearless" Threshing Machine, elsewhere in this paper. Unparalleled honors have been bestowed upon this machine, at fairs and exhibitions, State, National and International. And, as equally good and reliable evidences of superiority have been given, by the highest authority, times without number, persons designing to purchase will do well to consult the manufacturer of the "FEARLESS," MINARD HARDER, Cobleskill, N. Y.

THAT PLANT TABLE.

In the July number of the *MAGAZINE* I notice a request for a sketch and description of the stand and table I spoke of in a former number. I am not much of an artist, and am therefore somewhat doubtful of my ability to illustrate an article very satisfactorily.

I shall not give any proportions, preferring to have the builder, or the person ordering it, to decide that part of the matter. The size of the windows at which it is to be used will have to govern the size

table is a lattice-like trellis about eight inches high, on which vines are trained. This serves to hide the pots and is very ornamental when well covered with the foliage of Ivy, Medeira Vine or anything else of a like habit of growth. Over the table are arches of iron which cross each other in the center, and are connected across the ends and sides of the table. Up and over these I train vines with very pleasing effect. Where the arches cross in the center, a bird cage can be hung, or a drooping plant. In the center of the table, under the arch, a tall vase is most effective,



of the table. About the edge of the table is a strip two inches in depth. After putting this on the table was painted several coats inside, making it thoroughly water tight. When ready for use, sand to the depth of an inch was spread over the bottom, and the pots stand on this, and no saucers are used. If so much water is given that some runs out at the bottom of the pots, the sand absorbs it. I keep this sand wet all the time, and it gives off a steady supply of moisture, which is very beneficial to the plants. About the edge of the

with other plants grouped tastefully about it. Such a table keeps all the litter and drip from the carpet, and will be found to be much more satisfactory, I think, than the ordinary plant-stand, made on the plan of shelves. It can be turned around, so that the plants get the light on both sides, without changing the position of the pots. It ought not to be very high from the floor. I would have it of such a height that the top of the smallest pots would be about on a level with the window sill.

The cost of it is not much, unless one goes to unnecessary expense in the ma-

terial and ornamentation of it. Of course, it would be possible to make it expensive, but I prefer to let the ornamentation be done by the plants than by the table. Let it be solid substantial and neat, but not over elaborate, unless one can well afford it, and the room in which it is used in has fine furniture with which a plain table would seem out of place.—EBEN E. REXFORD, in *Vick's Magazine* for November.

To the Editor of the Maryland Farmer.

A REPLY TO B. W. J. OF VA.

I heard, or rather saw, brother Jones, *mail* from Virginia, about the pest he calls *Pieris rapae* (vulgaris.) Cabbage worm. Now I will earn his thousand obligations, and also his prize of the largest head of cabbage he raises, (V. D.) I was troubled as he is for a number of years, until I discarded cabbage growing altogether. But one day about four years ago, my wife told me to bring her 100 cabbage plants from the city. I laughed at her, but brought them all the same. After the plants were well rooted, and stood firm, she took an *atomizer* filled with *Cayenne* pepper and dusted them in the evening late, or morning early, when the dew was on, this she repeated every two weeks, and since then I must say I can raise clean, sweet cabbage. It may be a little troublesome to dust a large field, but if sold at the rate of 5 to 10 cents per head it will pay. I never tried it on a large scale, as I farm mainly, and only put out 800 to 1000 plants per season. If you think it will answer your friend Jones, use it. It is a specific.

Fair Oaks Farm.

G. H. S.

VITALITY OF SEEDS.

In response to requests made by the board of control, Prof. Maynard made experiments to determine the power of weed seeds to withstand the digestive action of the stomachs of animals. He found that the seeds of dock, sorrel, chickweed, shepherd's purse, white daisy, etc., when swallowed in the food of a horse, unless actually broken by the animal's teeth, are passed in the manure uninjured, and will germinate readily when placed in soil under proper conditions of heat and moisture.

But careless farmers who throw weeds into their hog pens, or draw them into cattle yards for bedding or absorbents, should thank the professor for telling them that it requires a temperature of from 90 degrees to 110 degrees to kill weed seeds in a manure pile, and even at that temperature the manure must be considerably moist, so that the seeds will sprout, or else rot without sprouting, and the heat must be maintained for five to seven days. The only sure and practical way to clear manure of weed seeds, therefore, is to heat it by shoveling at once in a compost heap, keeping it sufficiently moist and at the above named temperature for a week at a time.

LIVE STOCK REGISTER.

To the Editor of the Maryland Farmer.

THE HEREFORDS.

The recent triumphs achieved by the Herefords, beginning with the fairs the past fall and culminating at the Fat Stock Shows at Kansas City and Chicago, have brought this breed into unusual prominence and created a strong desire for all information of it possible to obtain. This is a British breed, and one of the oldest of the British breeds; and while it has always stood well, yet we find less said of it by the ancient authorities than of any other breed of like prominence. The principle counties of England in which the Herefords are kept, are Hereford, Shropshire, Gloucester, and Oxford, and some counties adjoining Hereford, in Wales. The early Herefords were of a dark red, or reddish brown color. We have authentic accounts of the existence, in the tenth century, of a celebrated breed of white cattle, with red ears, which had its home in Wales, which at that time, included part of the present county of Hereford. It is probable that the two ancient breeds were interbred, and that the modern Herefords are the result of this interbreeding. This would account for the present markings of the Herefords. But Mr. Rowlandson, in his prize report on the "farming of Herefordshire," published in the Journal of the Royal Agricultural Society of England, relates that about the middle of the last century (1750), the favorite cow in the herd of Mr. Tully, Huntington, near Hereford, produced a white-faced bull calf; which was such a

curiosity that it was agreed that the calf should be kept and reared as a future sire; and adds that the progeny of this very bull became celebrated for white faces.

In this country we rarely see a Hereford of any other markings than red, with white faces, throats and bellys. This is because such are the fashionable markings in this country and animals otherwise marked are very rarely imported. But in Britain a light red, or a white back, or a roan of red and white mixed is quite common, and argues no impurity; and an almost clear white, with red ears, is occasionally met with.

As a dairy animal the Hereford has no value. This probably arises from the fact that the Hereford districts are grazing, not dairy. No effort has been made to develop the milk characteristic. The milk does not exceed the yield necessary to rear the calf in good growing condition; but it is rich. The cow dries early.

As a working ox the Hereford is the peer of any other, and superior to most. It is large, strong, muscular, well developed in form, noble, and stately in carriage, active, kindly and intelligent. But in this country we have a very limited need for working oxen, and the excellence of the Hereford for work purposes will give it very little value here.

It is as a beef animal that it has always been the best known, and it is its superb beef qualities which have made it prized mostly abroad and which altogether must make it popular here. The Hereford feeds kindly, is thrifty in growth, matures early, and proves exceptionally well on the butcher's block. In their native counties of England the Herefords have always stood high, and at the prize shows in the London markets they have always competed successfully with the other improved breeds. But they show to a much better advantage on the block than in the ring; that is, quality of flesh is more prominent than even their feeding qualities and beef form. Outwardly they are not so attractive as the Short-horns; they lack the "taking" appearance of the latter; and this partially explains their failure to become widely popular here. Perhaps the explanation is completed by the fact that the ground was first occupied by the Shorthorns, putting the Herefords always on the offensive, while

the Shorthorns had only to take the defensive.

They possess to an unusual degree the power to impress upon their descent their own characteristics. This gives them an unusual value as sires to be used upon common or native stock. An animal only one sixteenth Hereford blood usually has the Hereford characteristics strongly marked.

Quincy, Ill.

J. M. S.

STOCK RAISING.

What is worth doing at all should be done well, and this is peculiarly applicable to the raising of live stock. It should be kept in mind that no one can be successful in stock-raising who does not observe two principles—the keeping of well-bred animals, and giving them good keep. This is the secret of successful stock-raising in a nut-shell, and the unsuccessful stockman may become at least partially successful if he will but observe these principles in part, if not in full. A good hog, sheep, cow, steer or horse will always pay for raising, but a poor animal will generally be raised at a loss, no difference how cheaply it may have been purchased in the first place. Do not forget this. Get rid of all scrubs as soon as possible, and stock up with well-bred animals of every kind,

To the Editor of the Maryland Farmer.

Cure for a Kicking Horse.

The best way I have found, and I often buy kicking horses because cheap, is to put a ring into the ceiling, at the horses head, then draw his head up as high as you can, fasten and keep it there, and you can curry him, put on the harness, pick up his hind feet, and handle him as you like. This is a certain fact; but no cure. If he can get his head down, he may kick again, but his head up, he cannot kick. This also in case of shoeing.—G. H. S.

Know Thyself by reading the "Science of Life," the best medical work ever published, for young and middle-aged men.



Imported and owned by POWELL BROTHERS, "Shadeland," Springboro, Crawford Co., Penn.

To the Editor of the Maryland Farmer.

VICTOR.

We send you a cut of stallion "Victor" (894)1669. He is an elegant dapple grey Clydesdale stallion. He is recorded in the Scottish Clydesdale Stud Book. His Scotch No. is 894. He is also recorded in the American Clydesdale Stud Book No. 1669. He was imported by us in 1882.

"Victor" (894)1669, was sired by "Wellington" (906) winner of the first premium at the Highlands Society's Show at the Inverness in 1865, besides winning other premiums. His dam "Nancy" was by the famous horse "Comet" (192) winner of 1st. premium at Highland Society's show at Inverness, in 1856.

A correspondent of the *Farmer's Review* visited Shadeland Stock Farm, the following are extracts of what he saw there:

"We were much interested in a class of horses not yet common in this country, indeed with the lot of 14, now crossing the water, Powell Brothers own more of them than any other one firm, if not more than all the other importers and breeders in America combined. These are the French coachers, horses bound to become popular here for the very practical reason that *there is money in them*. Our farmers breed heavy draft horses to supply, not their own wants, but the demand in our large cities, and so will it be with the coachers, with this difference, that while the demand will not be so universal, prices will be far higher. The horses now at Shadeland are a fine sample of the breed. They are very stylish, with grand action, clean-limbed, possessing a frame indicative of strength and endurance beyond that of the ordinary carriage horse, the head and neck models of poise and symmetry, and an eye full of fire. In color they vary, although most of them are a deep bay. In height they range from 16 to 17 hands. In a word they are a perfect carriage horse for the elegant and stylish equipages now so popular among the wealthy residents of our large cities, for which a fine well-matched team of horses, with plenty of style and action, is indispensable, and consequently commands very high figures. Properly crossed with lighter horses we should think they would make excellent saddle horses, for which the demand in cities is also largely on the in-

crease. Powell Brothers have shown their usual enterprise and foresight in their liberal importations of these fine horses. They also have Cleveland bays, but they class the French coachers as much superior.

In horned cattle Powell Brothers breed Holsteins and Devons. Of the former breed they now have on hand about 200 head, and all purchased with the same scrupulous care to import nothing but superior animals, which has characterized their horse importations. These cattle are now running on pastures, over 1,200 acres, in addition to the property now owned by the firm, being rented for this purpose. In the course of a pleasant drive, several of these pastures were visited, and the stock inspected. A better collection of Holstein cattle it would indeed be hard to find. The broad escutcheons, well developed udders were all characteristic of the best types of this wonderful breed.

To the Editor of the Maryland Farmer.

HORSE BREEDING.

Horse breeding when properly conducted can be made remunerative. More risks however attend it than attend the breeding of other kinds of farm stock. A blemish that would not seriously injure the sale of an ox or heifer, would render a colt almost worthless. To insure against the loss liable to be incurred by accident which may befall colts, the profits on raising them should be greater than that on other stock. Some farmers think that it costs as much to raise a colt to the age of four years as it does to raise a pair of steers. The colt would not eat as much but usually feed of better quality would be required than that which would be fed to steers. It may be stated that as a general rule in order to make the breeding of colts profitable, they should meet with a ready sale of \$200 each when four years old. If the farmer could be assured of receiving that price on an average for all his colts, he could make it profitable to raise them. In order to obtain that price it is evident that the breeder must obtain good mares to breed from. It is impossible to breed good colts from second rate mares however superior the stallion may be. Once in a while a good colt might be obtained, but there would be enough poor worthless ones to absorb all the profits.

Numerous mistakes are made in breeding horses. Mares too old to be fit for breeding are often selected for that purpose. Mares whose services have been too valuable during their prime to spare for breeding, when they become partially disabled by age are devoted to breeding purposes. Sometimes good colts are obtained from them, but it is hardly reasonable to expect that such colts can be possessed of the powers of endurance and vigor which colts of younger dams would possess. Oftentimes good mares become disabled on account of sprains, ringbones or something of the kind and are then used for breeding purposes. Many farmers seem to think such mares are just as good for breeding purposes as those which are sound. Now there are very good reasons for believing that mares with sprains or ringbones will bear colts which will be predisposed to the same diseases. Darwin in his work on variation in animals and plants, says: "Veterinarians are unanimous that horses are affected with spavins, splints, ringbones, etc., from being shod, and from traveling on hard roads, and they are almost equally unanimous that a tendency to these mal-factions is transmitted." According to Dr. Lucas, quoted by Dr. Darwin, with the horse, there seems hardly a doubt that exostosis on the legs caused by too much travelling on hard roads, are inherited. Colts reared from mares affected with spavins, ringbones and splints, would not be so valuable as those reared from sound mares, and would not sell so well to those who understand about such matters.

A large part of the colts raised are bred from farm mares which are of inferior quality. Some queer mongrels are thus produced. To attempt to breed a trotter from a plodding old farm mare by taking him to a stallion formed for speed, and paying a high price for the use of the same, is not likely to result in producing a fast horse, nor one that will be serviceable as a farm horse. It is well known that the form of a trotting horse of great speed is not that which would prove to be a useful farm animal. Thus by crossing a farm horse with a trotting horse the product is neither fit for trotting nor for farm work. It really is not good for much of anything. Every man who is going to breed horses should consider what he wants to produce, and then see if his mare is adapted to the

purpose, and if so, select such a stallion as will conduce to the object sought. If the mare is a good work horse and it is desired to increase the size, take her to a good work horse stallion of large size. If the mare is "speedy" take her to a stallion that is "speedy," so that a colt of like kind may be produced. It should ever be borne in mind that "like produces like," and all operations in breeding should be conducted in an understanding manner, and then there will be a less number of disappointments attending it.

Me.

Dr. H. REYNOLDS.

To the Editor of the Maryland Farmer.

OUR FOREIGN LETTER.

PARIS, November 28.

The word "mule" is of Arab origin, and means a product whose source is not pure, but a mixture of two races. The mule partakes, in its character, more of its sire, the ass, than its mother, the mare. Tous-senel asserts, the mule is the emblem of mercantile feudalism; of a person obstinate, vain and cowardly, and that God has not destined it for reproduction.

Mule breeding is one of the most flourishing agricultural industries in France. Its center is in Poitou, which not only furnishes three-fourths of the total of all mules bred in France, but about four-sixths of the number of those exported, not only to Europe, but to America and Australia.

About 22,000 mules are annually reared in France, the principal regions for the industry, after Poitou, being the center and east of the realm, Gascony, and the Pyrenees. Spain, Italy, India and America, also breed mules largely. The vim given to mule rearing in France, is due to the excellence of the animal for army trains, and drawing mountain artillery, thus leaving more horses free for heavy artillery and cavalry. The locality where a mule is bred, affects its development and qualities. In Poitou, the mules are best for draught; the same observation applies to those of La Mancha and the Pyrenees. In many parts of Italy, and especially in Spain, a couple of mules are preferred to a pair of horses, for carriage purposes.

Mule breeding has been an institution in Poitou, since the middle of the tenth century. Despite the advantage of the industry, the government discouraged it,

as it was considered to absorb too many mares, from the production of horses. Towards the close of the eighteenth century, only mares of small build and inferior qualities were allowed to be employed in mule-breeding, while later, the official hostility was so great that a ukase was issued, to cut all the mule asses in Poitou where 30,000 mares were kept for mule-breeding.

The mules reared in the other regions of France, are ranked as more suitable for pack, or weight carrying. As a transport animal, the pack mule, being smaller, more sure-footed, and given to taking shorter steps, has the advantage over the horse. Then it is less delicate; supports the variations of climate better, and is more hardy. It resembles the ass in point of freedom from disease, save in the case of glanders and lock-jaw. The female mule can be more depended upon for work, and are more even tempered, than the male. The latter has a proverbially bad reputation, and castration is often resorted to, as a remedy against his viciousness. The female lives longer than the male, and both are much esteemed as beasts of burden, when of medium height, say between 13 and 14 hands.

The mule has been known to the ancients, and to the inhabitants of Mysia and Paphlagonia, revert the honor of being the first breeders. History testifies to the reputation of their cavalry horses and mules. The Hebrews utilized mules for many purposes, and the Bible refers to Armenia (Togharmah) as celebrated for its mules. Today, Balbek in Syria, is the head quarters of mules in the Levant. Some say they come up to the Mexican mule, the product of the mule-ass and mustang mare. The mule with the Isrealites, was employed like horses, for their kings and princes, as well as in warfare. Persia utilized mules for their royal letter-carriers. As the Jews were prohibited to breed from two animals of different species, they ever imported their mules, or insisted on receiving a certain number as tribute-payment, from the people whom they conquered.

In Poitou, as in Normandy in the case of the "Percheron" horse, the foals are bought up and sold to neighboring departments, to be reared. They grow more slowly than horse-foals, requiring nearly three, and even four years to fully mature.

But then a mule is good for work up to 35 or 40 years of age.

The mule is not exactly a hybrid, but a cross between the ass and the mare. The offspring of the male ass and mare, is the true mule, while the "hinny," not very valuable, is the progeny of the horse and the female ass. In any case the result of the crossing is an offspring which resembles neither of the parents, while inheriting the characteristics of both. The shape however approaches in conformation, more to the ass, than to the mare. The mule of the east of France, is low, and heavy-bellied; that of the south, slender, and tall on the legs; while the Poitou mule is often from 15 to 16 hands high, the first size preferred, has all the dash, muscle, and elegance of horses. For breeding, the male ass ought to have height, small head, flat sides, short neck, narrow hoof, croup and low shoulders. In the mare, round and compact body, small head, broad chest, good set limbs, rather long neck, and wide solid hoofs. The foal inherits size from its dam, but all the other traits, the teeth especially, from its sire. Its feet are as sure as a goat's. Fact strange, while a mare covered by a stallion, will communicate her defective form, or unsound constitution to the foal these are not hereditary in the case of the mule foal.

By its sobriety, strength and rusticity, the mule can resist a high temperature and dry climate, it subsists on little, and even coarse food, but cold and wet districts, tell on its health. A male fetches one-fourth higher price than a female mule and in France, the tariff of both, ranges from 800 fr. to 1600 fr. In Spain and Italy, an aristocrat would not ride on a female mule. There is a great repugnance between the equine and asinine species, to breed. While four mares will prove prolific from a stallion, two will only turn out so when bred from a male ass. And in the latter case, the period of gestation—375 days—is a little longer. The rearing of the mule is about the same as for the horse foals. The tail of the mule is rarely cut, but the ears are, if intended for saddle purposes. In damp, cold, foggy climates, the mule requires to be protected by a rug, and not to be exposed to night chills.

At Budapest, the Austrian government has a model Dairy School, where from 10,000 to 15,000 quarts of milk are daily

manipulated. It has also opened an official wine cellar, where farmers can store their vintages if of a saleable quality; have it prepared, classified, and sold under the guarantee of the state seal, as of a certain quality, and at a proportionate price.

THE DAIRY.

THE BEST WAY.

The FARMER is not joined to any idols in butter making, and does not contend that there is any exclusive way, for what would be handiest and best for one, would be an impossibility with another. The best and most expeditious way is to have a creamery, and practice deep setting. Some other dairyman may have a fine milk room, where pure, and moderately cool air 55° or 60° is to be relied upon, and can practice shallow setting, which would be quite as well for him; but whenever a full average result can not be obtained, then a better way should be sought. In a general way, but few people have a good, reliable milk room, and often the ordinary care of the milk, calls for unnecessary labor, and makes the butter cost too much. Then a cheaper and more economical method of practice should be determined upon. But this is true, something like uniformity can be secured in making. The cows can be well fed, and the milking and care of the milk can be cleanly done. The milk can be skimmed before the milk thickens, the cream can be occasionally stirred to mix it, it can be churned before it is very sour, it can be washed free of butter-milk with weak brine and salted $\frac{3}{4}$ of an ounce to the pound. This advice covers the whole field of gilt edged butter making.

Sir J. B. Lawes' recent guarded approval of ensilage, the statement is made that cows fed in considerable measure upon this food, not only give more cream or fat in their milk, but become fat themselves. The experience of skillful farmers who have fattened lean steers on ensilage, also

proves that it is a suitable food for increasing the weight of bees.

To the Editor of the Maryland Farmer.

SPECKS IN BUTTER.

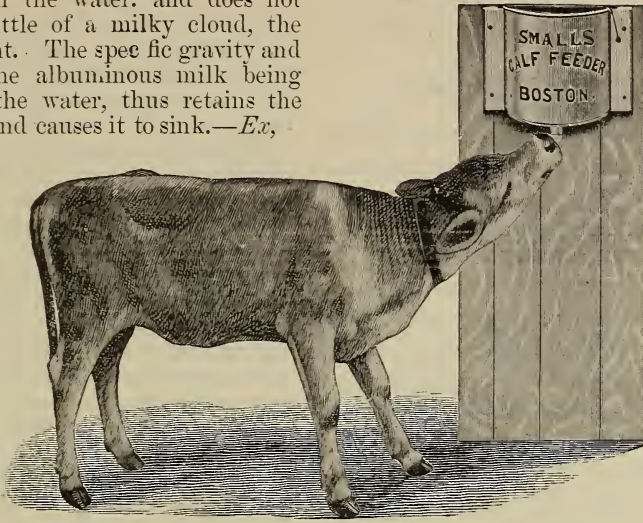
One of the unpleasant things about not only butter making, but butter eating, is to encounter white specks, and that they appear at all seasons of the year, and seemingly under all circumstances, leads many a buttermaker to believe that "specks belong to them." This is not so, as our best butter makers will testify, and the advanced creamery man will not believe, as none exists in his butter. The trouble nine times out of ten proceeds from the presence of sour milk. The cream has been left so long to sour, that the acid of the cream has changed the cheesy matter of the milk, into little specks of curd, and as they can not be dissolved, or beaten out of shape, they go into butter. Cream that is removed from milk, before the latter has changed, and then subjected to the heat of a room that is at 75° and frequently stirred up from the bottom, so that a change is noticable in 12 hours, and then immediately churned; never has specks in it. Many creamery men take the cream from the milk, put it in pails, and in a warm room have a water tank supplied with running water. Into this pool of water they set the cream pails, leaving the surface of the cream exposed to the warm air. By frequent stirring this cream is so acted upon by the air that it is ready to churn in 24 hours, and churned at 56° in revolving churns, the finest of butter, free from specks is secured. There are cases where specks are particles of dry cream that churning fails to dissolve. Washing the butter in two or three treatments of weak brine will remedy this, but the best remedy for the sour milk speck in butter is to prevent it by churning the cream at the first sign of acidity, and hasten this stage by a warm room and frequent stirrings. Then cool down to 58° or 60° and churn.

Ohio.

JOHN GOULD.

LET a drop of fresh milk fall into a glass of pure water. If the milk promptly disseminates itself through the water the cow that yielded that milk is not with calf, but if it sinks to the bottom of the glass

as it falls upon the water, and does not produce but little of a milky cloud, the cow is pregnant. The specific gravity and viscidty of the albuminous milk being heavier than the water, thus retains the drop of milk and causes it to sink.—*Ex,*



SMALL'S CALF FEEDER.

GRASS.

This is a new article of manufacture, which will be appreciated by farmers and stock raisers. It is designed for feeding milk to young calves, in a natural way, before they have become old enough to eat and drink otherwise; and is to the calf what a nursing bottle is to the babe, a substitute for nature. It is so very simple that it requires but little description. Two cleats, to hold the Feeder while in use, provided with guideways on their inner edges, are screwed permanently to the side of the stall (or any suitable support), so as to bring it within easy reach of the calf.

The nipple is made of the best quality of seamless rubber, and is self-fastening to the vessel, and can be instantly removed for cleaning. It is ingeniously constructed with a combination of valves, so that it does not leak, and will milk as perfectly as a live cow. It weighs less than four pounds, and can be sent by mail; a convenience for those living at a distance, where Express would be too great on a single Feeder.

A sample can be seen at our office.

Subscribe for the MARYLAND FARMER! only one dollar a year with a valuable premium.

There is no doubt but that of all food for the dairy, grass is cheapest and best, taking the cost of production into account, but this does not prove but that even in the times of "flush" feed, a ration of grain, especially to the butter making dairyman, is not decidedly profitable. There is no question but that growing grass supplies the finest of flavors to butter, and gives it good color, but at the same time there is an element lacking, that contributes towards making quality in butter which is supported by meal. Grain as a part ration, has great value in both promoting and maintaining the milk flow, and giving not only firmness to the butter, but also extra weight. It is not wise to take the grass fed cow and begin at once to feed her a daily ration of six or eight quarts of hearty grain food, but in thirty days the feeding of grain could be safely increased to a point that the owner might mark as the limit of profitable grain feeding. Rarely does it fail to be profitable to feed a grain ration to the butter cow, and even when butter is low, for eight pounds of butter per week on grass alone, or twelve pounds

with grain, soon tells just how much grain can be profitably fed to cows on grass.

INSPECTING MILK.

In a previous number we called attention to this subject, and gave an outline of the laws and their enforcement in other cities. We observe a series of articles in some of our daily papers on the same subject; and it gratifies us to know that a wide spread interest has been awakened by our article. It is a matter of great importance to the consumers in all our larger towns and cities; but also of great importance to every honest farmer who is forced to suffer, because of the cheats who adulterate milk and can thus afford to sell it at such prices as are far below a living profit for the honest dairyman. None will welcome good laws for milk inspection, more heartily than the patrons of the MARYLAND FARMER.

POULTRY HOUSE.

To the Editor of the Maryland Farmer.

CHICKENS IN JANUARY.

BY EXPERIENCE.

Cold storms, ice and snow, characteristic of this month, make it a trying one for poultry, and they should receive all the attention you can give. The chicken house must have special care. Keep it fresh and sweet, and at night be sure that the birds are comfortable. Have no broken panes of glass, no unstopped holes, and no places for snow or rain to enter upon the birds. Ventilate the house thoroughly during the warmest part of the day. Remove the droppings regularly and do not leave them in the house. Some clean off the boards, but leave the droppings in a box or barrel in one corner of the house. Store them in some other place. If you enter the house and find the smell disagreeable, be sure to remedy it at once, unless you do, eggs will cease, appetite will depart, disease will come and disorder will reign generally. This work should be observed at all seasons; but more especially in cold weather.

Your hens, if properly fed and sheltered, and comfortable, and exercised, will lay during this month. Early hatched pullets will be laying steadily. If Asiatics, they will have commenced last month, or even before, and will be continuing now.

Feed a warm meal every morning, including some kind of cooked vegetable: say, for example, corn meal and boiled potatoes, varied with wheat middlings and carrots. Put a seasoning of pepper in this morning feed twice a week. The outside leaves of cabbage will be valuable for them during this month, and almost any green vegetable will be welcome. Scatter oats among the litter of the chicken house and yard, and let the birds scratch. If they go to bed at night with a full feed of whole corn, it will be all right.

Let them have water every morning, with the chill off, and renew it when frozen. Empty it out at night. A little Cayenne pepper in the water, say twice a week, will warm up the birds.

Provide early pullets with plenty of broken shells, gravel, ground bone, with a little meat and green food. Keep them warm and dry, and they will give you many eggs in token of their gratitude. Even at considerable labor and trouble it will pay you this month to remove a body of snow from a sufficient space to give your hens access to the earth outside of their houses. If you can have a shed in connection with your house it is an advantage. They must have a dust bath, and under a shed with a southern exposure is just the place for a dust bath.

If the hens are disposed to eat their eggs, as at this season is apt to be the case, allow plenty of wooden, or china, or porcelain nest eggs to lie around, in, and out of the nests, and keep the nests quite dark.

During cold weather warm milk is very valuable for chickens, either as a drink or mixed with their warm morning feed. The more attention you bestow on your flock, the more thrifty they will be, and the better will be your returns from them.

Watch for colds, and roup, and take all sick birds at once to the hospital. During this month eggs are worth much money, and you should endeavor to obtain your share of the profit growing out of the high prices. If you are diligent in your care of your chickens, you will succeed in securing an abundance of eggs.

To the Editor of the Maryland Farmer.

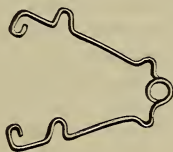
DIRECTIONS FOR MAKING CAPONS.

We are indebted to Mr. E. A. Yarnall of Philadelphia, for the following description and cuts.

In making capons (which by the way is a very profitable business to those who will but give the matter their attention), a few general rules should be observed, namely: Lay the fowl on the left side on an ordinary table, with the head toward your right hand; draw the upper leg well back and hold both firmly under the left elbow, and hold the wings with the left hand. Allow the head and neck to be entirely free, otherwise the bird will bleed to death during the operation; pluck the feathers off the right side near the hip joint, in a line with the shoulder joint, the space thus uncovered should be an inch and a half square. With the scalpel make an incision between



the last two ribs, about an inch from the back bone, first having drawn the skin backwards so that when left to itself it will cover the wound in the flesh; do not cut the thigh; now take the spreader (which



is the best instrument and most convenient for the purpose) hold it lengthwise with the fowl, introduce the points into the incision made by the knife and turn it toward the wings and gently loose your hold.

The spring will then force the ribs apart and make an opening through which the testicles, which are attached to the back bone can be seen. They are enclosed in a thin tissue sac; this tissue must be carefully torn away by the hook, then the lower



testicle, or the one nearest the rump, is

grasped with the curved forceps, or in



very young birds, use the spoon forceps,



and gently tear away. Then remove the upper one in a similar manner, avoid cutting or rupturing the blood vessel running along the back. Do not allow any of the fluid of the testicle, should one burst, to remain in the bird, if you do your operation will prove a failure, but remove all of it with the spoon of the spoon hook.

When you have finished, remove the spreader and carefully replace the feathers as best you can, and let the capons run, after cutting off a toe or placing some mark of distinction upon it. You will find, after a little practice, the operation can be performed in less time than it takes to tell about it. An expert can caponize from fifteen to twenty chickens per hour.

You will find, by following up this business, you have a better article for market than is found in the ordinary poultry, and, furthermore, the capon grows much larger than a cock, and commands a better price.

I have given this matter considerable attention, and feel assured that the set of instruments herein described is the most convenient in style and the best in material ever offered for sale.

These instruments can be seen at our office, and are for sale at \$4.00 per set.

A SUCCESSFUL HUNTER AND FARMER.
—We learn that Mr. R. H. Weaver of this county, killed two large bears last week near his place, just across the river, and the week before killed four, to say nothing of the many turkeys he has also killed this season. Mr. Weaver returned from the Southern army with a ragged suit of cloths as his entire property. He has been farming since, and is now the owner of several fine plantations, well stocked and equipped, a suburban residence near Memphis, and other property—all made farming—and has in the meantime raised and educated his family.—*Memphis Appeal*.

DINNERS IN DETAIL.

For family dinner it is never best to attempt too much. For sensible people the most satisfactory dinner consists first of good soup, then fish garnished with suitable additions, followed by a roast and vegetables with entrees, a salad, cheese and dessert. This well cooked and neatly served is pleasing to the most fastidious guest; and is within the means of any house-keeper. It is the exquisite quality of a dinner that pleases, and not the multiplicity of dishes. *Menu* cards are not needed unless the dinner is very formal. They may be neatly written or engraved especially for the occasion.

The dinner being prepared the next thing in order is to seat the guests. When the servant announces dinner, the host offers his arm to the most distinguished lady present while the hostess follows last with the most honored gentleman. The host places the lady whom he escorted on his right, the other guests are conducted to the seats assigned them, the lady always sits at the right of her escort. Guests as soon as seated remove their gloves, place the napkin in the lap and begin eating. Soup is always taken and tasted, even if not liked, after soup it is proper to refuse or partake of whatever is offered.

When finger glasses are presented remove the doily to the left and place the glass on it, the napkins and not the doily are used for wiping the fingers.

If wine is not approved of it may simply be declined without giving any reason for so doing, as a private table is no place for discussions.

A wine glass should be held by the stem. Bread is never cut, but broken off by the fingers into morsels. Food should never be mixed on the plate. Fish must be eaten with a silver knife and fork. Macaroni is cut and cheese crumbled on the plate and eaten with a fork. Raw oysters are eaten with a fork. Soup from the side of the spoon. Oranges are peeled without breaking the inner skin, being held on a fork. Pears are pared while held by the stem. Food not eaten with a fork should be eaten with a spoon. Bread eaten with meat is not buttered. Asparagus is cut and eaten with a fork. The bones should be removed from fish before eating. Pud-

ding may be eaten with a fork or spoon. Ices and jellies require a spoon.

When the dinner is ended the hostess signals the ladies to leave the table by a slight bow. The gentlemen may accompany them or adjourn to another room to smoke. If coffee is not served at dinner, it is brought to the drawing room half an hour later, and served by the hostess from the urn. Half an hour after coffee any guest is at liberty to depart. After attending a dinner it is customary to call at the house of the hostess within a week.

The proper dress for attendance at a dinner is the full dress toilet of the season.—Mrs. Eliza R. Parker, in *Good House-keeping*.

COST OF FARM TOOLS.

Do our improved implements diminish the cost of farm products? The answer to this question will depend on the care taken of the implements used on the farm.

If a man buys an improved plow at an advanced price and by it improves his plowing 20 per cent in quantity and quality of work the first year; but if he leaves it where he finished the last furrow in breaking his fallow ground, and the next spring finds it rusty and hardly fit for use, and a few years of the like treatment destroys it altogether.

Our advice to such a farmer is: Always buy a cheap plow, for any plow is too good to be treated in such a manner. But if a farmer intends to take care of his implements, and when the season's work is done, oils the iron work that is not painted, cleans the wood work and securely puts it away under shelter till the season for its use comes around, then the best tools he can buy are the cheapest, for, as a general rule, they not only do the most and best work with the least labor, but are the most durable.

At a county fair, not many days ago, a man declared that it cost him as much per bushel to thresh his wheat crop with a steam separator as it would have cost had he hired men to thresh it with flails. Suppose we concede the truth of this assertion, at the present price of labor, yet if the whole country depended on flails to thresh the wheat and oats crop, the demand would so far exceed the supply that the cost would be greatly increased.

It may cost no more to put an acre of wheat into shocks with a sickle than with a self-binder, but the present wheat crop in this country would be an impossibility, if it had to saved by hand.

FARMERS' CONVENTION.

We had observed in the newspapers of Maryland for some weeks that a Farmers' Convention would be held in Baltimore, and that a meeting of the Executive Committee had taken place to make arrangements concerning it. Having received no notice from any authoritative source, it was not mentioned in the December number of the MARYLAND FARMER. Since the issue of our December number, our attention has been called to this omission, and upon communicating with gentlemen of the committee, we have received the following letter from Mr. Devries, one of their number, which we publish with great pleasure, and sincerely hope for a succesful meeting. But we would suggest for a Farmers Convention to discuss agricultural subjects only, would it not be better to invite farmers, and all interested in agriculture to attend the convention and also name the subjects for discussion? Farmers Conventions of this kind are held in various sections of our country, giving great satisfaction to farmers and all interested in agriculture.

MARYLAND STATE FARMERS ASSOCIATION.

The Executive Committee of this organization held a meeting on November 5th, with the President, ex-Governor W. T. Hamilton, in the chair.

It was decided to hold the annual meeting of the Association in Baltimore on Wednesday, January 13th, 1886. The composition of the first meeting was fixed, under the powers delegated to the Executive Committee, until the Constitution is adopted, as follows:

Each farmers' organization in a county will be invited to send one delegate.

The Vice-President of the Association, in each of the several counties of the State, will be requested to call a meeting of the farmers of his county, to select as many delegates as may be deemed advisable to represent it in the general meeting.

The delegates appointed in these two ways from each county will be entitled to cast a vote equal to the number of members of that county in both branches of the State Legislature.

A sub-committee was appointed to prepare the drafts of a Constitution and By-Laws for the Association, which the Executive Committee will pass upon, and then submit for consideration and adoption to the general meeting.

At the January meeting gentlemen of prominence will be invited to deliver addresses. No topics for general discussion will be adopted in advance, it being assumed that the regular business of the Association will consume all the time at its command.

H. O. DEVRIES.

OUR NEW COVER.

We have desired for some time to make the cover of the MARYLAND FARMER of such distinctive type that it would at once be recognized by the most casual glance. This is one step in the way of progress for the coming year. Will not each of our subscribers show our Journal to his friends and thus meet our spirit of improvement by procuring additional subscribers. Could a few thousands be added to our list during the coming year by this means it would enable us to add greatly to its interest and usefulness. In fact, we wish every number we shall send out, during the year to come, to be an invitation to the farmers of Maryland, and the South generally, to interest themselves in behalf of the increased success of our

Journal. The new cover is the promise of many good things in store for our subscribers.

THE MARYLAND AGRICULTURAL COLLEGE.

Judging from the recent tone of the press throughout the state and the expressions of friendly opinions by prominent agriculturists, this much misunderstood institution seems to be increasing in public confidence and favor.

Our confidence in this College as a most valuable educational agency for our great industry, is too well known to need re-assertion. We have been striving for ten years or more past, as a public duty, to create a better public sentiment as to the agricultural college until a more liberal spirit should prevail throughout the state and should give that support which is due to the most important and deserving industry of our people.

We see nothing to be gained by criticising the faultfinding of the past, which in our opinion has arisen from not understanding the actual facts more than unfriendliness. And it is encouraging to observe that public sentiment is disposed to let "the dead past bury its dead," and to join heartily in the present efforts to perfect the educational methods which are to make the Maryland Agricultural College the useful and creditable institution designed by its charter and its founders.

The College has been always open to public inspection, and the public, and particularly members of the Press, have been earnestly invited to visit the College for inspection and investigation, in order that they may see the evidence of thorough attention to every department of the educational work, and appreciate the present excellent and prosperous condition of the College, under the management of President Smith.

The main objections urged against the college are, that enough money has been already appropriated to make it a success and very little has been accomplished. It is possible to expend a considerable sum and yet that sum not be sufficient to produce the results desired. This is the fact with reference to this College. The amount appropriated has been sufficient to secure the construction of ample buildings and the procurement of a valuable equipment for educational work in the shape of laboratories and museums, and to command excellent teaching in all branches embracing that of agriculture to the extent of the means provided. Enough has been done in this way to compensate for the amount of money thus expended, but money sufficient to do what should be done in the shape of *experimental* work, which is expensive, has not been furnished. At the time the appropriation was made, neither the State nor the College knew what it would require for this purpose. Why? Because this kind of work was new; there were no precedents to go by. Since then the experience of other colleges added to our own, has developed facts, and more definite conclusions. Comparison with other Agricultural Colleges show that this college has received perhaps less than any of them. And those that are flourishing, owe their prosperous condition to the contribution by their States of funds adequate for all purposes. And these are only flourishing where the States have furnished without stint to every requirement. Give our College what is needed to produce the results demanded, and it will very soon vindicate its claim to public recognition as a valuable institution.

In this connection we wish to add the following extracts from the *New England Farmer*, as very clearly developing one of the points we have discussed in past numbers of our journal, as to the object of experiments, and the proper view to be taken

of expenditures in behalf of Agricultural Colleges and their work.

If it be true with regard to manual labor schools, that "the more an establishment is a factory, the less it is a school," it is none the less true of the Agricultural College, that the more it is a farm, the less it is an educational institution. That is to say if the College farm is to be run for the purpose of getting a good pecuniary return from it, in crops or in stock, just as the neighboring farmers run their farms, it is, in just so far, a failure as a means of education. A great deal better return, in this respect, could be made out of any college farm in the whole country, by hiring a gang of experienced farm laborers, in place of a class of inexperienced learners such as the students necessarily are, and pushing the farm for all it is worth, raising only such crops as are most readily and profitably sold, and competing tooth and nail, with the farmers in the neighborhood.

* * * * *

But, after all, it is not the business of the agricultural Colleges to make money out of their farms, but to make men out of their pupils. No one complains that the splendid library of Harvard College produces no pecuniary return. Doubtless it might, a part of it at least, be put upon a circulating library basis, "two cents a day for each volume," and return to the institution at least enough to pay the salary of the librarian, but nobody thinks of making it a charge against the University, that this is not done. The farms attached to the Agricultural Colleges stand upon precisely the same ground; they are means of education, not of money making, and the moment it is attempted to turn them to this latter use, their value is diminished, and their true purpose comes at last to be forgotten.

An Old and Reliable Drug House.

To the public, who have for many years known the old and reliable Drug House of E. & S. Frey, it need hardly be said that their preparations are such as can be used with entire confidence, and will give the best satisfaction.

Their leading proprietary medicines:—Frey's Vermifuge for Worms, which has been successfully used for 50 years, and

their Logan's Blood Purifier and Tonic for Dyspepsia, Sick Headache, &c., are remedies that need only to be tried to be thoroughly appreciated. Their Extracts of Vanilla and Lemon for flavoring are *really delightful*. Send for a list of their specialties, or order anything you may need in their line with assurance that you will receive articles of best quality and at moderate prices. See advertisement on page 20.

MARYLAND STATE AGRICULTURAL SOCIETY.

The Annual Meeting of the Maryland State Agricultural and Mechanical Association was held at No. 58 N. Charles St., Baltimore, on Monday, November 30th, at 11 o'clock, A. M., pursuant to public notice, Mr. Frank Brown, President, in the chair.

The President's report was submitted and accepted.

On motion, the meeting proceeded to elect officers for the coming year. The President yielded the chair to T. Alex. Seth, when an election was held with the following result:

President—Frank Brown. *Vice-Presidents*—Hon. Wm. Walsh, Alleghany county; Dr. E. J. Henkle, Anne Arundel county; A. S. Abell, Baltimore county; Ezra Whitman, Baltimore city; Enoch Pratt, Baltimore city; S. M. Shoemaker, Jr., Baltimore city; Col. W. A. McKellip, Carroll county; Philip Downs, Caroline county; Hon. D. R. Magruder, Calvert county; Hon. Wm. M. Knight, Cecil county; Dr. S. Mudd, Charles county; Dr. Wm. R. Hayward, Dorchester county; L. Victor Baughman, Frederick county; Patrick E. Hammill, Garrett county; Hon. Edwin Warfield, Howard county; Herman Stump, Harford county; George Spencer, Kent county; Spencer Jones, Montgomery county; C. E. Coffin, Prince George county; J. M. Robinson, Queen Anne county; Levin L. Waters, Somerset county; Gen. B. G. Harris, St. Mary's county; Col. Ed. Lloyd, Talbot county; Hon. W. I. Aydelotte, Worcester county; Hon. Wm. T. Hamilton, Washington county; Col. Lemuel Malone, Wicomico county; W. W. Corcoran, District of Columbia. *Executive Committee*—James L. McLane, A. M. Fulford, T. Alex. Seth, E. Gittings Merryman, R.

F. Maynard, W. R. Devries, Chas. T. Cockey, E. B. Emory, Delano S. Fitzgerald. *Secretary and Treasurer*—David Cowan.

To the Editor of the Maryland Farmer.

IMPORTANCE OF GOOD SEED.

BY A. P. SHARP.

Too much attention cannot be paid in selecting good sound, well-matured seed. How often the planter is disappointed in sowing imperfect seed is well-known to all, especially when obtained from Uncle Sam's granary. A good sound seed should contain all the elements necessary, by the aid of heat and moisture, to develop a perfect plant; even as a perfect egg will bring into existence a young chick with a proper degree of heat. To secure this end one should raise it himself, that he may know that every necessary precaution was used to obtain a perfect ripening of the plant before communication with the soil was broken. In the early development of organic matter it is well to state that nitrogen does not make its appearance, and as it is known that gluten rests immediately beneath the bran of wheat, rye, oats, &c., on the starch, it is reasonable to suppose that it was the last that was formed within the case, or coating, enclosing the starch. This gluten is the first step towards blood, and presents the same composition as the albumen, and is the highest organic compound known in the vegetable or animal kingdom. Its transformation into blood will be discussed in another chapter. The first appearance of nitrogen is in the leaves, being a component part of chlorophyle, and this will explain why the tender grass-fed cow gives the flow of rich milk in spring and early summer, the cheese of which represents the nitrogenous portion of her feed, and without the nitrogen the cheese or clabber could not be produced. Many aim to feed and raise cows for the butter, but my aim has been to secure the cheese, knowing this is the source of blood, while starch must be the source of fat and heat. To be sure that the seed has all the nitrogen or gluten that they can get, it is better to allow a portion of the crop to remain until all sign of life passes out of the leaves, stems, or stalks,—indicated by the disappearance of the

coloring matter and the dying of the leaves,—when the grain will be found generally full and plump with the gluten and starch. To have good fodder, corn is often cut too green, and in consequence the grain more or less imperfect. For seed wheat, oats and rye, it is of the utmost importance that the parent of the intended crop should be of full weight and as much over as possible, say 62 to 65 lbs. per bushel for the wheat, 57 to 60 for the corn, and 36 to 40 for the oats. Without a good start, with all the necessary elements to develop the plant, there is no assurance of a crop; no more than a poor sickly animal would bring forth a fat and healthy offspring. It is intended that a seed should have all the necessary vital elements to develop the roots and leaves, so that it is ready to take care of itself at the proper time. If nitrogen is absent a perfect plant cannot be started; hence so many seed, which are never heard from after being planted.

ED.] Knowing the importance of the matter alluded to by our correspondent, we are permitted to extract from his contemplated publication the above chapter, hoping it will awaken some interest in our readers to the importance of securing good seed.

IMPROVEMENT IN FARM WAGONS.

For hundreds of years four wheels, two axles, tongue and body have made up the farm wagon to the satisfaction of farmers, with no anxiety about improvements of any description. While great progress has been made in all other farm machinery, the farm wagon has remained about the same as for ages past. In a very recent number we called attention to the low down bodies in farm wagons, as an improvement in the right direction; and in our present number we are pleased to observe another great improvement, which is fully set forth in an advertisement on pages 26 and 27. We call particular attention to this description, as giving interesting and valuable information. We are

heartily glad to see any step towards improving the wagons of the farm, and we believe the field for invention in this direction is large. Genius has room for work here which will be appreciated by hosts of hard laboring men, who will repay in gratitude, as well as in hard coin, for every improvement which is achieved by it. Improve our farm wagons and you will be a greater benefactor than those who bestow their millions upon scientific explorations at the North Pole, or among the stars.

**EXTRACTS FROM PRESIDENT
CLEVELAND'S MESSAGE.**

We cannot tell when, if ever, any President of the United States has before uttered such appropriate, wise and encouraging words, for the agriculturist, as those we print below. During all the year past we have striven to gain for the farming community their just shape of government aid. We took occasion to discuss the subject at the great agricultural meeting at New Orleans during last year's exposition, and we have since published several articles on this subject. The President's words are well worth preservation, and we commend them to the study and practice of our readers:

AGRICULTURE.

The agricultural interest of the country demands just recognition and liberal encouragement. It sustains with certainty and unflinching strength our nation's prosperity by the products of its steady toil, and bears its full share of the burden of taxation without a complaint. Our agriculturists have but slight personal representation in the councils of the nation, and are generally content with the humbler duties of citizenship and willing to trust to the bounty of nature for a reward of their labor. But the magnitude and value of this industry is appreciated when the statement is made that of our total annual exports more than three-fourths are the products of agriculture, and of our total

population nearly one-half are exclusively engaged in that occupation.

The Department of Agriculture was created for the purpose of acquiring and diffusing among the people useful information respecting the subjects it has in charge, and aiding in the cause of intelligent and progressive farming, by the collection of statistics, by testing the value and usefulness of new seeds and plants, and distributing such as are found desirable among agriculturists. This and other powers and duties with which this department is invested are of the utmost importance, and if wisely exercised must be of great benefit to the country. The aim of our beneficent government is the improvement of the people in every station, and the amelioration of their condition. Surely our agriculturists should not be neglected. The instrumentality established in aid of the farmers of the land should not only be well equipped for the accomplishment of its purpose, but those for whose benefit it has been adopted should be encouraged to avail themselves fully of its advantages.

The prohibition of the importation into several countries of certain of our animals and their products, based upon the suspicion that health is endangered in their use and consumption, suggests the importance of such precautions for the protection of our stock of all kinds against disease as will disarm suspicion of danger and cause the removal of such an injurious prohibition.

If the laws now in operation are insufficient to accomplish this protection I recommend their amendment to meet the necessities of the situation, and I commend to the consideration of Congress the suggestions contained in the report of the Commissioner of Agriculture calculated to increase the value and efficiency of this department.

THERE is no part of Life's Citadel where the enemy can make a lodgement that the "Vinegar Bitters" will not find him, and put him to rout. —*Impurity of blood* is the parent of disease; the liver, the stomach, the lungs, the nerves, every vital organ is affected primarily from this cause, and in this direction the "Vinegar Bitters" acts with magical influence.

BILLS.

With our December number, as has been our custom in past years, we sent out our bills to subscribers. We have been pleased with the generous response which has borne virtues to the interest taken in our Magazine. We thank them heartily for their prompt remittances, and their many words of encouragement which have come in their communications. To those who have not attended to this we would renew our request to forward their subscriptions. We always prefer our subscribers to read the MARYLAND FARMER as belonging to them, paid up. It does them a great deal more good; and it benefits us, also.

CORN AND COB MEAL.

EDS. COUNTRY GENTLEMAN.—Please give me your opinion of the value of corn, ground cob and all, for feed for Jersey cows, mixing it, of course, with ground oats and wheat bran, as the corn meal itself is usually mixed. Do you think there is too much potash or woody matter in the cob? J. M. *Columbia, Tenn.*

[Answer by PROF. E. W. STEWART.]

Corn cobs, when finely ground, have a nutritive value 0.4 that of the grain, consequently, if we suppose that in corn and cob meal there would be 18 lbs. of cob in 100 lbs. of meal, and if clear corn meal were worth \$1 per 100 lbs., then 100 lbs. of corn and cob meal is worth nearly 90 cents. In a number of experiments in feeding pigs, the corn and cob meal proved to put slightly more gain upon pigs than clear meal, caused, no doubt, because the cob made more bulk in the stomach, and rendered the meal more porous, so the gastric juice could circulate through the mass, and thus produce more complete digestion. If an equal weight of cob meal, oat meal, and wheat bran be mixed, it will make a good food for milk. If finely ground, there is nothing injurious in the cob. But it would improve this ration to mix 3 lbs. of decorticated cottonseed meal with it; but it is *not safe* to feed the undecorticated. This ration should also be mixed with some short cut fodder to make it still more porous, and cause it to go to the first stom-

ach, be raised and remasticated. This subjects it to the macerating process of this stomach, and causes it to be well mixed with saliva in remastication. These are all important steps in digestion. When corn and oats are fed without grinding, the kernels often pass cattle whole, showing that it passes on through the stomach without remastication; but when meal is eaten with coarse fodder, it must be raised and re-ground by the teeth.

OUR LETTER BOX.

We have room for only a few of the kind letters received daily from our subscribers, in remitting for the coming year, and to all we return our thanks and best wishes.

December 5th, 1885.

MR. EZRA WHITMAN,

MY DEAR SIR:—The last number of the 22nd volume of your magazine—MARYLAND FARMER—came to hand, well filled with substantial and interesting matter, alike suitable to the farmer and mechanic, as well as the scientist.

Every farmer knows, who has read your valuable monthly, that every line in it interests him; even the advertisements.

I know from past experience of what benefit the MARYLAND FARMER is, and the good it has done; I am well aware of the life-long labors of its Editor in behalf of all the interests of the hardy sons of the soil. I have often wondered at the liberality of the gifts you offer for new subscribers, and how it is possible for you to do so much at so little cost to the farmers, who reap the benefit of your labors. For one I would like to know that each of the present subscribers would make himself a committee to procure one extra subscriber, sending in the one dollar greenback as a compliment for the spirit of progress which has been shown in your advocacy of all agricultural interests. May I not appeal to the farmers to do this small work for a magazine, every number of which is worth all that is paid for the whole volume? especially when we take into consideration how greatly its contents will add to the quality and quantity of crops produced, if its teachings are put in practice.

Virginia.

S. J. M.

Sandy Spring, Md., Dec. 19, 1885.

Dear Sir:—The annual Farmers' Convention of Montgomery County, will be held at Sandy Spring, Montgomery Co., Md., on Thursday, January 7th, at 10 o'clock. All are cordially invited.

HENRY C. HALLOWELL, *Pres.*

H. H. MILLER,
FRANK SNOWDEN, } *Secretaries.*

Ed.] These annual gatherings are very popular and well attended. We should be glad to accept the invitation to be present, and would do so if it was upon the line of a railroad; but a drive of six miles across the country at this season of the year may prevent our being present. The Convention has selected seven subjects for discussion, all of which are important to the farmer. Such meetings ought to be held in every county of the State, and would be of far more benefit than so many political meetings.

MR. EZRA WHITMAN,

SIR:—Please find enclosed the amount of bill for subscription to MARYLAND FARMER from January, 1886, to January, 1887, for my mother, Mrs. B. C. Howard, who is now in her 85th year (nearly blind), but has not lost her interest in gardening or farming, and likes to hear it read.

Respectfully,

MISS A. W. H.

Baltimore, Dec. 8th, 1885.

EZRA WHITMAN,

MY DEAR SIR:—Please pay FARMER for '86, with my best wishes for its continued prosperity, and extended usefulness. Greeting your age with all the good wishes of the approaching, joyous, happy season, I have only to hope that your experienced and useful life will be spared to us yet many years.

Very truly yours,

Plains, Dec. 16th, 1885. J. H. S.

EDITOR MARYLAND FARMER:

Enclosed please find my subscription to your valuable journal. Wishing you a long

life, with happy greetings the coming festival occasions, I am,

Yours truly,

T. B., 12th Dec., 1885. W. H. G.

BOOKS, CATALOGUES, &c., RECEIVED.

"THE NEW AGRICULTURE."—This volume seems to be an attempt at perfecting the system of Drainage, and as all farmers are well aware this, joined with irrigation, will accomplish great results for all crops. Its claims are very extensive, and if one-half of these claims could be realized, it would repay every farmer to follow its plans of work and improvement. An exchange epitomizes its claims as follows: (1) Cereal crops are increased more than four fold; (2) the size, flavor and enhanced production of fruits and vegetables are in proportion as five to one under the old systems; (3) vegetation of all kinds is rendered absolutely free from disease, more especially that arising from fungoid infection; (4) the ground worked under this system being measurably impervious to frost, the producing season is prolonged from forty to sixty days; (5) it creates a rich, moist, and loamy soil out of the most unpromising hardpan; (6) it prevents the washing of surface soils from hill-side farms during heavy rains; (7) springs are created on the most sterile hillsides; (8) drouth is effectually guarded against. The volume is printed in beautiful clear type, on excellent paper, and bound in the best style; its author, Hon. A. N. Cole, is a practical man and agriculturist: pages 223, price \$2.00. Anglers Publishing Co., New York.

NEWSPAPER MANUAL, 1885.—Chas. C. Ford, New Haven, Conn. A finely bound volume, comprehensive, for reference of business men, who wish an acquaintance with periodicals having not less than 1000 subscribers.

THE CADET.—This is a monthly publication by the students of the Maine State College, now in its 4th month of publication. It is a large 16 page magazine, well printed on very heavy paper, and in all respects is a credit to the College and its students.

"OUTING."—We have received and examined a copy of this magazine. It is what its title represents, "an Illustrated Magazine of Recreation." Intended "to drive dull care away" and carry its readers into the ideal world of pleasure and prosperity, it has its place in the world of popular literature. Monthly, \$3.00 a year. Boston, Mass.

THE PLANTERS JOURNAL for December.—The current number of this most excellent publication is very much enlarged and improved both in matter and appearance. It is profusely illustrated. The editorial, contributed and selected articles are practical. Southern farmers should subscribe for this journal. Only \$1.50 per year. Address the Planters Journal Co., Vicksburg, Miss.

THE
"MARYLAND FARMER"

A STANDARD MAGAZINE,

DEVOTED TO

Agriculture, Live Stock and Rural Economy,

Oldest Agricultural Journal in Maryland and
 for ten years the only one.

EZRA WHITMAN, Editor and Proprietor.

141 WEST PRATT STREET,

BALTIMORE, MD.

BALTIMORE, JANUARY 1st, 1886.

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Special rates for cover pages.

Transient Advertisements payable in advance.

Advertisements to secure insertion in the ensuing month should be sent in by the 20th of the month.

INTERNATIONAL EDITORIAL ASSO-
 CIATION OF AMERICA.

This association was organized at New Orleans in February, 1885, and the next meeting will be held at Cincinnati, Ohio, on the 23d, 24th, and 25th days of February, 1886. The Membership includes "any person who is a member of the Editorial Association of any State, Province, or Nation of North America, or a properly accredited representative of such Associa-

tion." Each State Association is asked to send at least one delegate for each twenty members or fraction thereof, belonging to the Association and two delegates at large from each state or Territory.

We are heartily in favor of this new movement, and shall hope to refer to it more at large in the next number of our Magazine; having room only for this brief statement of facts at present.

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